
ISSUES, CONSIDERATIONS AND GOALS

Issues and Concerns

ISSUE IDENTIFICATION

The Board conducted public information meetings in March through May 1997 in McCall, Cascade, Donnelly, Lowman, Garden Valley, New Plymouth, Payette, Ola, Emmett, and Boise to discuss preparation of this Payette River Basin Comprehensive State Water Plan. Meeting participants were asked to identify water-related issues, problems and concerns, water development needs, water improvement options, and water conservation and protection measures. Additional information was obtained through letters and agency coordination meetings. More than 100 issues, concerns and problems were identified, covering ten general topics. A summary of these issues is contained in Appendix A.

In March 1998 a list containing these issues was compiled and distributed at a public information meeting, and later to citizens in the basin. Recipients were asked to rank issues on a scale of one to five regarding how much effort should be devoted to each. The Payette River Citizens Group reviewed the results of this ranking effort, narrowing the focus to thirty-three priority issues. The remainder of the planning effort for the Payette River Basin Plan focused on these priority issues. These are summarized for each category below. Specific problem statements developed for each issue are found in Appendix G.

Proposed State Protected Designations

The Board designated reaches of the North Fork Payette, South Fork Payette, and main Payette

ivers as state recreational rivers in the *1991 Payette River Reaches Plan*. In the current planning effort, many citizens support continued protection of these reaches, and designation of some additional reaches, including:

- North Fork Payette - Headwaters to Payette Lake
- North Fork Payette - Payette Lake Outlet to Cascade Reservoir
- Lake Fork - Headwaters to mouth
- Gold Fork - Headwaters to mouth
- Clear Creek (tributary to South Fork Payette) - Headwaters to mouth
- Pine Creek (tributary to South Fork Payette) - Headwaters to mouth
- Deadwood River - Dam to mouth
- Middle Fork Payette - Headwaters to mouth
- Payette River - Horseshoe Bend to Black Canyon Reservoir
- Second Fork Squaw Creek - Below Sagehen Dam to mouth
- Squaw Creek - Second Fork confluence to mouth
- Bull trout focal habitat

Other citizens did not support state protected river designations, because of the perception that multiple use management is restricted, and the belief that activities such as grazing, timber or motorized use would be prohibited in the drainage. These concerns were discussed and addressed in Citizens Group workshops. Support for and against federal wild and scenic river designation was also presented.

Water Allocation

Water allocation addresses the distribution and use of water in the basin. Many rivers and streams are regulated, with irrigation the major consumptive water use. Some citizens want to consider water management flexibility by exploring other storage release alternatives that would optimize water use for multiple demands, including irrigation, flood management, fisheries, recreation, water quality, and municipal water supply. The need to protect existing water rights, storage contracts, and diversions, and acknowledge other legal constraints is also essential.

The J Ditch project was constructed to eliminate discharge of McCall's wastewater into the North Fork Payette River, and improve water quality in Cascade Reservoir. The project entails delivering the effluent to irrigators, replacing water diverted from Mud Creek and Lake Fork Creek. With irrigators diverting less from these waterways, it is hoped instream flows in Mud Creek and Lake Fork will increase, enhancing water quality and the fishery. Many individuals were concerned that any additional instream flows that may result from this project may be claimed through the water appropriations process, or continue to be diverted because efficient water control and flow measurement devices are lacking.

Of the 427,000 acre-feet of Idaho water released for salmon flow augmentation, 145,000 to 155,000 acre-feet annually came from the Payette River Basin from 1995 to 1997. This water consists of 95,000 acre-feet of uncontracted space in Cascade and Deadwood reservoirs, with the remainder purchased from the rental pool. Many concerns have been expressed about this use of the basin's water, and the possibility of more basin water being used to provide an additional one million acre-feet from Idaho for this purpose. Concerns include the irrigators not having water in drought years, impacts from

drawdown of the reservoirs, the inability to acquire storage contracts for water to meet future needs, and questions of the effectiveness of using water for this purpose.

Irrigators expressed concern that water conservation in the form of improved water application or water delivery systems may put their water rights at risk. As an example, converting from flood irrigation practices to sprinkler irrigation uses less water to irrigate the same acreage. Water users are concerned that if they conserve and use less water, they may have their water allocation reduced by this amount. Many feel that the legal and administrative process for water appropriations and allocations should be more flexible so that water rights are not jeopardized.

The Board is the only entity that can acquire a minimum streamflow water right. The public has identified several waterways in the Payette River Basin where an instream flow is desired for water quality, recreation and fishery maintenance. Suggestions for instream flows for specific reaches in the basin are discussed under the appropriate issue categories.

Water Storage and Delivery

Improved management of water delivery in the basin is desired by many entities. Improved management can make additional water available in the rental pool. Some agencies have identified improved water management as a way to benefit water quality, especially in the Cascade Reservoir watershed and the lower Payette Valley. Some citizens have expressed a desire to improve irrigation efficiency, such as reducing irrigation diversions and return flows, and improving water application methods to make conserved water available for other uses and needs such as instream flows. Others note that water conserved from irrigation may result in

undesirable consequences, such as reduced aquifer recharge, and should therefore be carefully considered. Additional water storage was identified as a desire by the public for municipal water supply, flood control, and irrigation.

Irrigation diversion structures in the lower Payette Valley and Cascade Reservoir watershed were examined in two separate studies to determine if improvements could be made (Natural Resources Consulting Engineers, Inc., 1996; Quadrant Consulting, Inc., et al., 1997). These studies examined opportunities to consolidate or upgrade diversions to improve water management efficiency. The public suggested reviewing and summarizing the study recommendations.

Water users in Water District 65 are the predominant water users in the basin. There are several smaller water districts and irrigation companies operating on tributaries to the North Fork, South Fork, Middle Fork and main Payette rivers. Better coordination between these districts / companies might result in more efficient water management. One suggestion was to conduct a flow optimization study for the entire Payette River Basin, examining among other things, whether coordinated releases between tributary storage in the Cascade watershed can increase instream flows and enhance water quality.

Municipal Water Supply

The communities in the basin are experiencing significant growth, ranging from 14 to 43 percent from 1990 to 1996. Domestic, commercial, municipal, and industrial water demand is increasing due to population growth. The Payette River Basin's population has increased nearly 73 percent in the twenty-six years between 1970 and 1996. The cities, which are the fastest growing areas, may require new water supplies to provide for additional people. As

the industrial potential of the area is developed, water requirements for industrial use will also increase.

Water supply to meet future municipal demands is an issue of allocation and not necessarily supply. There is adequate water to address the future municipal demands, but most available water in the basin is appropriated for other uses, predominately for agricultural irrigation. Uncontracted space in federal storage reservoirs are currently used for flow augmentation, making water storage contracts difficult to obtain. Planning is needed to identify mechanisms and water supplies to securely meet future municipal needs. Locating additional supplies for domestic, municipal, commercial and industrial uses may require administrative actions, policy changes, or reallocation to make additional water supplies available for these uses. Projected water demand and needs for municipalities in the basin are summarized in the *Domestic, Commercial, Municipal and Industrial Water Uses* section. Many communities in the basin face expensive infrastructure investments to meet Safe Drinking Water Act standards and/or increased demands.

The City of Horseshoe Bend has concerns about secure water supplies. It has a Payette River surface water right with a 1976 priority date. In 1996 about one-third of their water was purchased from the rental pool. They are concerned that this water may not be available in drought years, and that growth may be limited.

The City of McCall has recently made expensive investments in a water treatment plant, and still needs to fund Phase 2 to meet Safe Drinking Water Act requirements. The City is also concerned about planning and acquiring water to accommodate future growth. McCall also relies on water from the rental pool at times, which provided 8 percent of its 1997 water supply.

Water Quality

The Idaho Division of Environmental Quality is the primary state authority for addressing water quality issues. The Board has the authority to "study and examine" water quality issues, and "advise, cooperate and counsel" the Idaho Division of Environmental Quality about these issues [Idaho Code 42-1734(15)]. Since water quality and quantity are interrelated properties, they must be addressed by the Board in the comprehensive state water plan.

Currently, four watershed advisory groups (WAGs) have been organized in the basin to advise the Idaho Division of Environmental Quality on the development of water quality management plans. Citizens are concerned that the Board's plan will duplicate or be counterproductive to the efforts of these other groups. The Payette River Citizens Group suggested the Board's plan defer to the Idaho Division of Environmental Quality and the watershed advisory group process for most water quality issues, and address only issues that are within the Board's or Department's authority. Areas to be addressed in the Payette River Basin Plan would include coordination between well permitting and septic/drainfield installation, and instream flows.

The Idaho Department of Water Resources is responsible for well permitting. The Health District oversees permitting and installation of septic systems. This current system can result in wells being permitted and constructed without knowledge of local septic tank and drainfield locations. Increased individual waste disposal system density, particularly in rural areas with high water tables, increases the potential risk of contamination to wells, surface water, and ground water. This is a concern in the Cascade Reservoir watershed, Garden Valley, along the Middle Fork Payette River, and some areas in the Lower Payette Valley. The facilities plan for the

City of Crouch identifies this as the highest potential adverse environmental impact (Toothman-Orton Engineering Company, 1993). Idaho Code does not require a developer to identify septic tank or well locations on subdivision development plans if the future property owners will be responsible for facility installation. With small lot sizes, development on adjacent lots may prevent landowners from locating wells and drainfields that meet Health District standards.

The Board has received suggestions to improve coordination between the Idaho Department of Water Resources' well permitting activities and the Health Districts' septic tank / drainfield location permitting responsibilities to minimize potential water quality impacts. Citizens have expressed a desire to make the permitting process for both more efficient by acquiring permits at one place. Instream flows are desired for several river reaches to improve or maintain water quality. Reaches suggested include:

- North Fork Payette: Upper Payette Lake to Payette Lake
- North Fork Payette: Payette Lake to Cascade Reservoir
- Lake Fork: Little Payette Lake to Cascade Reservoir
- Gold Fork: Gold Fork diversion to Cascade Reservoir
- Payette River: Banks to Black Canyon
- Payette River: Black Canyon to Letha
- Payette River: at Letha
- Payette River: Letha to Snake River

Some citizens have suggested that the 300,000 acre-foot minimum pool administratively established by the U.S. Bureau of Reclamation for Cascade Reservoir should be secured. Suggestions have included the Board pursuing a minimum lake level water right, or making it state policy.

Flood Management

Flood protection in the basin is provided by two upstream reservoirs (Cascade and Deadwood). This regulates flows for only 35 percent of the basin, with no regulation of flows in the low elevations. Flood control levees are located from Horseshoe Bend downstream.

Floods that occurred in January 1997 and high waters in the spring of the same year resulted in renewed concern about floodplain development and taxpayer liability for flood damage. Development adjacent to the river that encroaches into a floodway may reduce the flood stage flow volume and minimize the ability to manage floods without property damage. Many citizens do not want the state mandating or even suggesting actions to local jurisdictions. Others see the Board's plan as a way to get local planning authorities to recognize and address the issue. The public also questioned whether 1997 flood damage had been repaired at all locations.

A levee system exists on the Payette River from Horseshoe Bend downstream. Uncertainty exists about who is responsible for repair and maintenance. Levees are owned by numerous jurisdictions, cities, counties, and private entities (See Map 13). Repairs and replacements to many levees during the recent flooding may place the same areas at risk or expand areas at risk. There is a need to have regular maintenance and coordinated management of the levee system.

River channel capacity has changed for many waterways in the basin since the Federal Emergency Management Agency completed floodplain mapping. Flooding in 1997 deposited sediment and debris in the river channel, reducing river channel capacity from Horseshoe Bend

downstream. These conditions have likely changed 100-year floodplain boundaries and floodways, suggesting a need to update floodplain mapping in the basin.

Resource Development

Hydropower development in the basin has been the predominant resource development focus during the planning process -- specifically, a hydropower project proposed for the North Fork Payette River. The proposed project would be located in the Smiths Ferry to Banks reach, currently designated as a state recreational river which prohibits construction of such projects. Gem Irrigation District has requested that the Board amend the *Payette River Reaches Plan* or provide an exemption to allow this proposed project.

Comments from the public have both opposed and supported the project. The public has identified many environmental concerns, including questions about impacts to the scenic, fishery and recreational values of the North Fork Payette canyon, and possible geologic hazards associated with construction and maintenance of the pipeline. Irrigators are concerned that the 100 cubic feet per second diverted for the hydroproject may disrupt downstream irrigation deliveries. The financial feasibility of the project has been questioned. Supporters of the project cite the future need for energy, and the economic benefits to counties in jobs and tax revenues.

Fisheries

The public would like to see the quality of fisheries improved or maintained in the basin. Reaches where improved quality and management are desired include Cascade Reservoir, North Fork Payette, South Fork Payette, Middle Fork Payette, and main Payette rivers. Suggestions for improving the fishery in Cascade Reservoir and tributaries

include altering diversions in the Gold Fork and Lake Fork drainages to allow fish passage, improving water measurement, installing fish screens, and minimizing sedimentation.

Instream flows have been suggested to maintain fishery values. Suggestions have involved reaches located below dams or diversions, including:

- North Fork Payette - below Upper Payette Lake, below Payette Lake and below Cascade Dam
- Lake Fork - below Little Payette Lake Dam
- Gold Fork - below Gold Fork diversion
- Deadwood River - below Deadwood Dam
- Payette River - below Black Canyon Dam

The bull trout was listed as threatened under the Endangered Species Act. A problem assessment is being prepared for the Payette River Basin which will identify threats to bull trout persistence. The Board has received a request to designate all bull trout focal habitat as state protected rivers so that adult and juvenile migration are not impeded. Focal habitats are the waterways where bull trout return to spawn and rear, and therefore, considered critical to survival.

Agency Planning and Coordination

Citizens desire coordination between agency efforts to minimize duplication of efforts, and to make permitting and review processes more efficient. The difficulty in obtaining permits for stream channel alterations was mentioned. The public felt permits take too long to obtain, especially during emergency situations. Citizens also questioned the need for permits to repair or replace previously approved structures. The concept of stream channel work permitted and performed to prevent flood damage as part of a coordinated pro-active plan was discussed.

Secondly, the naming convention for the river reach from the Middle Fork Payette confluence

to Banks was raised. Most people refer to this reach as the South Fork Payette River. The official name, according to the U.S. Board of Geographic Names, is the Payette River. The citizens would like local naming convention to be formally recognized by all agencies.

Recreation

The Payette River Basin has a variety of quality outdoor recreation opportunities, but is probably best known for the quality and diversity of recreational boating activities on rivers and lakes. Recreation use has increased significantly as the area population expands, and the Payette River Basin is discovered by people outside the area. Increased use results in conflicts between different users, and increased pressures on area services. Many local residents feel that there is a need for additional services and facilities to handle the recreation pressures, and funding to support it. Although a federal fee program was implemented in the spring of 1998, funds are still needed to help local jurisdictions respond to the recreation demands and impacts. Specific concerns include impacts to riparian areas, the need for more parking and restrooms, private property trespass, and the need for more developed facilities and sites accessible to the disabled.

Others are concerned about changes in the quality of the outdoor recreation experience. Some citizens fear recreation activities will be prohibited or eliminated to minimize impacts. The majority wish to maintain the diversity of recreation opportunities available in the basin. Many citizens feel management has focused on recreational boating on the rivers, resulting in displacement and neglect of other recreation activities. They want a management focus on all recreation activities in the Payette River system.

State Highway 55 and the Banks-Lowman Highway (Forest Road 17) are major transportation

corridors used to access recreation opportunities in the basin. Traffic density on Highway 55 has increased significantly, more than doubling from 1980 to 1995. The public is concerned about safety and travel convenience. Traffic management is a priority concern.

River flows are regulated by releases from Upper Payette Lake, Payette Lake, Little Payette Lake, and Cascade and Deadwood reservoirs governed by irrigation requirements, and to some extent, flood control objectives. Many recreation opportunities and the quality of the recreation experience on the rivers and reservoirs are dependent on the quantity and timing of these releases.

Institutional Constraints and Opportunities

Other state, federal, and local entities have major roles in the regulation and management of water and land resources in the basin. These authorities and responsibilities have been taken into consideration in the development of the Payette River Basin Comprehensive State Water Plan. Some of these authorities provide a framework for which actions and recommendations contained in the Board's plan must be compatible. Many present opportunities to implement actions and make recommendations to address issues and achieve goals in this plan. Those authorities relevant to the Payette River Basin Plan are summarized here.

PAYETTE RIVER REGULATION

Operation and Management of the Federal Storage System

Federal, state, and private entities have roles in the operation and management of the federal storage system in the Payette River Basin. The U.S. Bureau of Reclamation operates the system as part of the Boise Project, authorized in 1905 under the 1902

Reclamation Act. Operations are controlled by several factors: 1) appropriation, use and distribution of water must comply with state water law; 2) contractual obligations to space holders must be fulfilled; and 3) projects must be operated in a manner consistent with congressional authorization for the project (U.S. Bureau of Reclamation, 1996).

Appropriation, use and distribution of water is the responsibility of the Idaho Department of Water Resources. The watermaster for Water District 65 is responsible for coordinating water deliveries and accounting for use of natural and stored water in the system.

Appropriation and use of water by the U.S. Bureau of Reclamation for federal storage facility operation must comply with Idaho water law. Water stored in U.S. Bureau of Reclamation reservoirs have water rights with two components - the right to store and release water, and the right to divert water. Storage rights are associated with the storage facility and are held by the U.S. Bureau of Reclamation for Cascade and Deadwood reservoirs. Reservoir storage rights, along with natural flow rights, are satisfied in order of priority. The diversion rights for irrigation are appurtenant to the land, and are often held by an individual or an entity such as a canal company.

Deadwood and Cascade reservoirs are key components of the Payette River Basin federal storage system. Construction of Deadwood Dam and Reservoir were approved in 1928, and completed in 1931. Cascade Dam and Reservoir were approved in 1935, and completed in 1948. These reservoirs have a total storage capacity of 865,000 acre-feet, and supply water to approximately 120,000 acres of agricultural land (U.S. Bureau of Reclamation, 1996; See Table 52). Deadwood and Cascade are operated as a unified storage system, storing and releasing water to maximize the capability of the reservoirs.

Table 52. Payette River Basin Federal Storage Reservoirs.

Reservoir	Total Storage (acre-feet)	Active Storage (acre-feet)	Storage Right Priority Date	Authorized Purpose
Cascade Reservoir	703,200	653,200	12/24/37	irrigation, power
Deadwood Reservoir	162,000	161,900	12/31/26	irrigation, power

Source: U.S. Bureau of Reclamation, 1996.

The primary purpose of the federal storage system is irrigation. Power generation helps operate irrigation facilities at Black Canyon Dam. Flood control operations are based on an informal agreement. Operation of the project for recreation, fish, and wildlife benefits is a secondary objective, as the projects were not originally authorized for these purposes. Operational considerations for fish and wildlife include minimum releases below dams and minimum pools at Cascade and Deadwood reservoirs. Minimum pools were established by administrative decision, entailing 300,000 acre-feet at Cascade Reservoir, of which 250,000 acre-feet is active storage. A minimum pool of 50,000 acre-feet was established for Deadwood Reservoir. These targets may not always be met as the Bureau must meet contractual and other legal responsibilities first.

The amount of water available in the entire Payette River system and the amount of carry-over from the previous year impact the timing and volume of irrigation and flood control releases. Refilling the reservoirs for irrigation is balanced with flood control objectives, usually occurring during the period of April through July. Providing too much flood control space jeopardizes reservoir refill, and placing too much emphasis on reservoir refill jeopardizes flood control operations. The required space needed for flood control storage is determined by rule curves that indicate how much space must be available in a reservoir based on date and runoff forecast. Forecasts are determined by observed precipitation and runoff, snowpack moisture, and historical conditions.

Cascade and Deadwood reservoirs provide the only major flood control for the Payette watershed. Flood control operations follow informal agreements, with the objective of limiting flood flows to 12,000 cubic feet per second at Horseshoe Bend (U.S. Bureau of Reclamation, 1996). Cascade Reservoir is assigned 80 percent of the flood control space and Deadwood Reservoir is assigned 20 percent.

Irrigation releases occur as needed between April 1 and October 31, when the natural flow of the river is insufficient to meet irrigation demands. Water demand is determined by weather, crop consumptive use requirements, and cropping patterns. Flow at the Horseshoe Bend gage is typically maintained between 2,000 and 2,600 cubic feet per second to meet downstream irrigation needs (U.S. Bureau of Reclamation, 1996). In the past, Black Canyon Reservoir was managed to minimize fluctuations to less than 0.1 foot of full pool to ensure delivery for diversion canals. Construction of flanges on the drum gates in 1998 will allow the reservoir pool elevation to be raised six inches during the irrigation season, providing more flexibility.

Pool elevation of Cascade Reservoir is held as high as possible to maintain recreation and water quality values. Releases for irrigation demand are made from Deadwood Reservoir first, usually in July and August. This operation also enhances recreational boating on the South Fork Payette. After Labor Day releases from Deadwood Dam are reduced and late season irrigation demand is met by releases from Cascade Dam.

The Lake Reservoir Company operates four reservoirs (Payette Lake, Upper Payette Lake, Granite Lake and Box Lake) in the upper Payette River Basin to provide water supply for irrigation of lands located in the lower valley between Emmett and Payette. These reservoirs provide a total of 35,195 acre-feet of storage. Operations are coordinated with Water District 65 and the U.S. Bureau of Reclamation to manage lake surface elevations according to the conditions of the Lake Reservoir Company's water rights. Conditions for Payette Lake were established as part of an agreement made in 1924 and later decreed by the District Court in 1946 (District Court Valley County, 1946). The Lake Reservoir Company must manage Payette Lake so that the surface elevation does not exceed the normal high water line (7.05 feet as measured at the U.S. Geological Survey gaging station in McCall), or go below the normal low water line (1.51 feet at the gage). Releases of storage water must occur in a manner that does not interfere any more than necessary with the bathing beaches or natural fluctuation of the lake.

During average years the Lake Reservoir Company has raised the water level of the lake in mid-July to the maximum allowed, retaining this level for several days depending on snow depths and storm events (Big Payette Lake Technical Advisory Committee, 1997). As the Company withdraws its storage water, the surface elevation of the lake drops steadily through Labor Day, but remains high enough for general recreation, resort and related use (usually at the 5.00 foot level on the U.S. Geological Survey gage). Early irrigation demand for Payette Lake storage water is met by releases from Cascade Reservoir, later replaced by releases from Payette Lake throughout the season. (The flexibility to use Cascade Reservoir storage and later replace it with Payette Lake storage was not possible until Water District 65 was formed.) After Labor Day, the lake water level is gradually dropped to the minimum

level (usually by October 20) to protect the dam from ice damage when the lake freezes.

Power generation is incidental to irrigation and flood control uses of the storage reservoirs. However, Idaho Power Company has a natural flow right at the Cascade Powerplant that is senior to the storage right for Cascade Reservoir, requiring release of natural inflows of up to 200 cubic feet per second at Cascade Dam.

Winter releases from the reservoirs are established early in November based on carryover storage and fall inflow. A minimum winter target release at Deadwood Dam is 50 cubic feet per second, established after new outlet gates were installed in 1990. Average winter releases at Deadwood Dam from 1961 to 1990 were 2 cubic feet per second, and 63 cubic feet per second since 1990 after the gates were installed. The target for winter outflow at Cascade Dam is 200 cubic feet per second, meeting a natural flow water right for Idaho Power Company's Powerplant (U.S. Bureau of Reclamation, 1996). Average winter releases (December - January) at Cascade Dam are 674 cubic feet per second based on a period of record from 1961 to 1990 (U.S. Bureau of Reclamation, 1996). If carryover storage is large, higher releases may be made around the end of the calendar year to create or maintain storage space for flood control operations.

The Water District 65 watermaster uses a water rights accounting system, maintained by the Idaho Department of Water Resources, to ensure that the storage and use of water is properly accounted to the appropriate space holders, regardless of where the water is physically stored or actually released. This allows the system to be operated more efficiently than if water were physically stored according to the storage right priorities. The watermaster adjusts deliveries according to water demand and availability.

A space holder contract is the purchase of a certain amount of reservoir storage space, not a contract to deliver a specific amount of water. Under this system space holders can retain unused stored water from one year to the next; however, the total amount of water cannot exceed the volume of the contracted space. The irrigation year for water accounting tracking begins on November 1 and ends October 31.

Space holders have contracts for 370,300 acre-feet of storage in Cascade and Deadwood reservoirs (U.S. Bureau of Reclamation, 1996). This comprises about 45 percent of the total active space in the reservoirs. The remainder of space is assigned to minimum pools, streamflow maintenance, reservoir evaporation and salmon flow augmentation.

Flow Augmentation

The National Marine Fisheries Service is the federal agency responsible for salmon and steelhead recovery under the Endangered Species Act. This agency has committed to make a decision about long-term recovery procedures for Idaho's salmon and steelhead by 1999. In the interim, the preferred federal approach has been to utilize water storage from upriver reservoirs to help flush smolts to the lower Snake River dams, and then transport them in barges and trucks for release below Bonneville Dam on the lower Columbia River (Idaho Department of Fish and Game, 1998). The U.S. Bureau of Reclamation is directed by the 1995 biological opinion issued by the National Marine Fisheries Service to provide 427,000 acre-feet of water from Upper Snake River storage to augment river flow during periods of downstream salmon migration. The Idaho Legislature passed a resolution in 1996 that opposes flow augmentation as a long-term solution for salmon recovery. The Legislature has set out conditions to allow rental of storage water on a temporary basis until January 1, 2000 [Idaho Code 42-1763B].

Water used for salmon flow augmentation in the Payette River Basin has ranged from 145,000 to 155,000 acre-feet annually between 1995 through 1997. Of this, 95,000 acre-feet is obtained from uncontracted space in Cascade and Deadwood reservoirs, and the remainder leased by the U.S. Bureau of Reclamation from willing sellers in Water District 65's rental pool. All flow augmentation water is administered through the rental pool.

Water Rental Pools

In 1979 the Idaho Legislature authorized establishment of water bank and rental pools statewide. The rental pool provides flexibility in the system by allowing irrigators to lease excess storage water. Water Districts 65 and 65K operate the two water rental pools in the Payette River Basin. The Board appointed a committee to operate Water District 65's rental pool in 1990. The Lake Fork Water District (WD 65K) established a rental pool in 1997. The rental pools are administered by the district watermasters under the guidance of local rental pool committees. These committees establish rental rules and the price for rented water. Local water rental pools and leasing prices must be approved by the Board.

The primary purpose of the rental pool is to meet the needs of irrigation water users within the water districts. Irrigators have first priority in Water District 65 until July 1 of each year. After July 1 the remaining unrented stored water is available to other water users and other beneficial uses. Water rented out-of-basin is the last to fill for the following year. The U.S. Bureau of Reclamation has been the largest purchaser of Water District 65 rental pool water, using the water to meet salmon flow augmentation objectives discussed earlier.

The Lake Fork Water District (65K) established a water rental pool in 1997. Rental priorities are similar to Water District 65, except that

priority for irrigators in Water District 65K extends until June 15. No water may be leased below Lake Fork Creek mouth without written consent of the Water District 65 Rental Pool Committee.

IDAHO WATER RESOURCE BOARD PROGRAMS

Minimum Stream Flows and Lake Levels

The Idaho Legislature adopted a minimum stream flow law in 1978, providing for the Board to appropriate water for instream flows or minimum lake levels. Minimum stream flows are instream water rights with priority dates held by the Idaho Water Resource Board in the public interest. Water for minimum stream flows is not diverted and used, as is the case with most other water rights in Idaho. Instead the water remains in the stream or lake to protect fish and wildlife habitat, aquatic life, water quality, or for navigation, transportation, recreation, or aesthetic beauty. Chapter 15, Title 42 of the Idaho Code provides the authority and spells out the procedures the Board must follow.

To acquire a minimum stream flow or lake level water right, the Board files a water right application with the Idaho Department of Water Resources, establishing a priority date. The application describes the stream, amount of water sought, purpose, and location, and other information needed to satisfy the statutory and Department requirements. The Board may hold public meetings before filing the application to gather information and seek public input.

After receiving an application, the Idaho Department of Water Resources conducts a public hearing notifying the public, property owners, and water right holders in the area. Following the public hearing, the Director of the Department of Water Resources issues an order denying or approving the application. All minimum stream flow or minimum lake level water rights approved by the Director must

be submitted to the Idaho Legislature for review. The Board, on behalf of the state of Idaho, holds six minimum stream flow water rights for river segments in the Payette River Basin. Map 26 displays and Table 53 lists the current minimum stream flow appropriations in the basin.

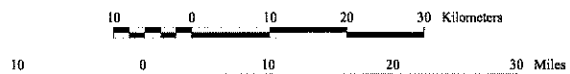
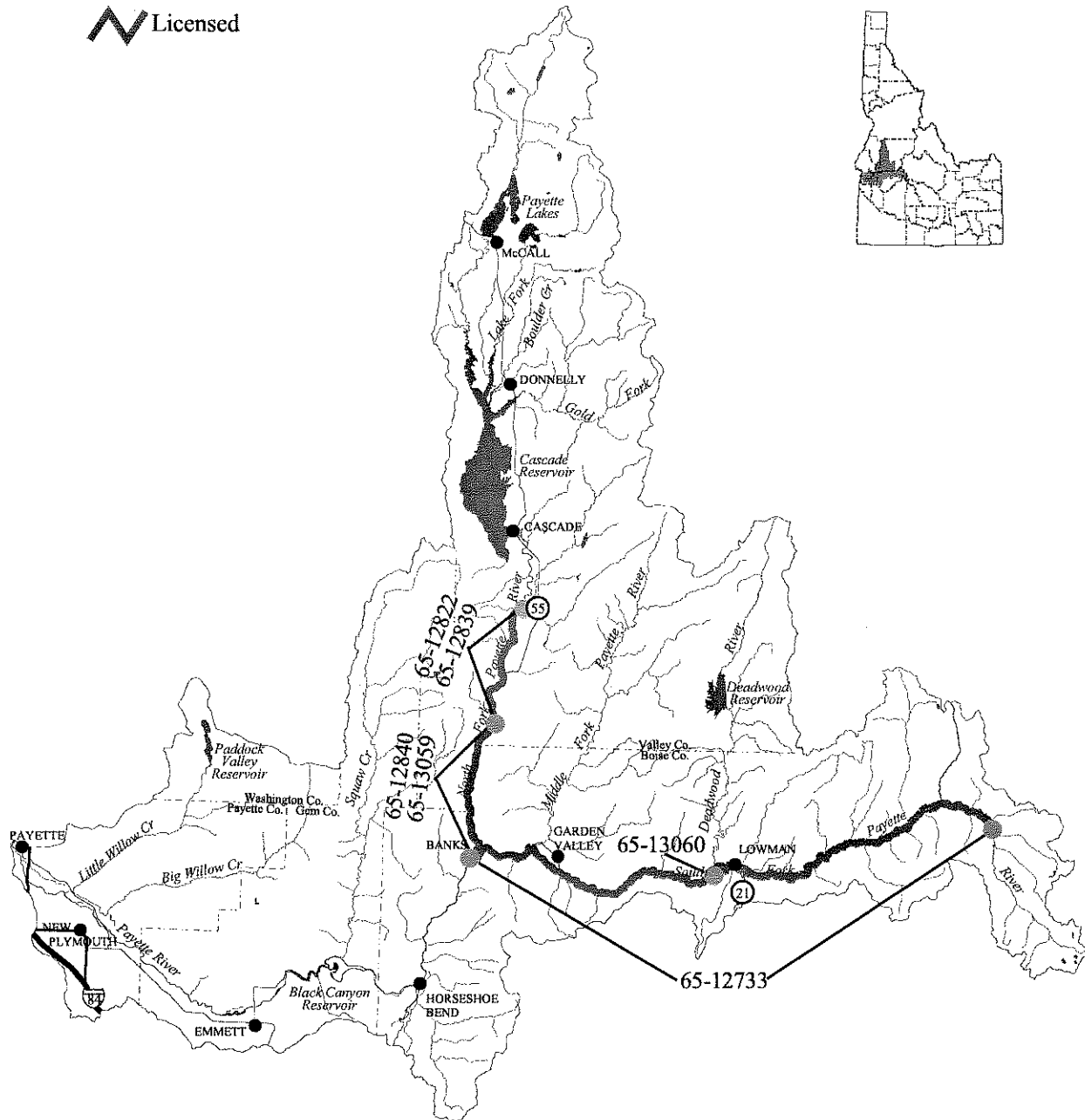
The Idaho Legislature declared the preservation of water in certain lakes for scenic beauty, health, and recreation purposes was a beneficial use of water as early as 1925. A statutory appropriation of water in Payette Lake was made in trust for the people of the state of Idaho and issued to the Governor [Idaho Code 67-4301 to 67-4312] (See water right 65-02333 in Table 53).

Water Resource Funding Programs

The Board's Water Resource Funding Programs provide monies to plan, design, construct, improve, and rehabilitate water projects that promote the efficient and effective use of Idaho's water resources. Funding is in the form of grants, low-interest loans, and water resource development revenue bonds administered through one of three programs. Local governments, associations, or non-profit corporations are eligible for funds. For-profit corporations are eligible if the projects are found to be in the public interest. Funding is available for projects or studies associated with community/municipal water supply and delivery systems, wastewater collection and treatment systems, irrigation water supply and delivery systems, aquifer recharge, energy production and energy conservation projects involving water, aquaculture water supply and delivery systems, flood control systems, drainage systems, water-related recreation projects, fish and wildlife enhancement projects, and water quality improvement projects. Projects must be in the public interest, compatible with the *Idaho State Water Plan*, economically and technically feasible, and environmentally acceptable.

Map 26. Existing Minimum Stream Flow Water Rights

 Licensed



One inch equals approximately 15 miles

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Table 53. Minimum Stream Flow and Lake Level Water Rights in the Payette River Basin.

River Reach	Water Right	Priority Date	Flow (Season)
<i><u>North Fork Payette</u></i>			
Payette Lake (held by the Governor)	65-02333	3/5/25	25,495 acre-feet
Cabarton Bridge to Smiths Ferry	65-12822	12/17/87	1400 cfs (6/18 - 10/12) 106 cfs (10/13 - 3/15) 500 cfs (3/16 - 6/17)
Cabarton Bridge to Smiths Ferry	65-12839	4/5/88	100 cfs (3/16 - 6/17) 294 cfs (10/13 - 3/15)
Smiths Ferry to Banks	65-12840	4/5/88	1800 cfs (5/1 - 6/30) 1300 cfs (7/1 - 7/31) 1800 cfs (8/1 - 9/1)
Smiths Ferry to Banks	65-13059	5/1/89	400 cfs (9/2 - 4/30)
<i><u>South Fork Payette River</u></i>			
Sawtooth Wilderness boundary to Deadwood River confluence	65-12733a	4/26/85	212 (1/1 - 4/18) 1100 cfs (4/19 - 7/15) 212 cfs (7/16 - 12/31)
Deadwood River confluence to upstream end of Oxbow Bend	65-12733b	" "	337 cfs (1/1-4/14) 1100 cfs (4/15-8/31) 337 cfs (9/1-12/31)
Upstream end of Oxbow Bend to NE 1/4, SE 1/4, Sec. 31, T9N, R7E	65-12733c	" "	337 cfs (1/1-4/14) 337 cfs - Mon-Thurs (4/15-8/31) 400 cfs - Fri-Sun (4/15-8/31) 337 cfs (9/1-12/31)
Deadwood River confluence to Middle Fork River confluence	65-12733d	" "	337 cfs (1/1-4/14) 1100 cfs (4/15-8/31) 337 cfs (9/1-12/31)
Middle Fork river confluence to Banks	65-12733e	" "	407 cfs (1/1-4/14) 1350 cfs (4/15-8/31) 407 cfs (9/1-12/31)
Downstream of Deadwood confluence	65-13060	5/16/89	763 cfs - Mon-Thurs (4/15-8/31) 700 cfs - Fri-Sun (4/15-8/31)

More than 400 water development, conservation, and management projects and studies around the state have received financial assistance from the Board; seventeen of these have been in the basin. The majority involved municipal / community water supply projects, with a few irrigation projects. Table 54 summarizes projects in the Payette River Basin receiving financial assistance from the Board. The Board's Water Resource Funding Programs are a potential source of funding for other water development, conservation, and management projects and studies needed in the basin.

Water Supply Bank

The Water Supply Bank, established by Idaho Code 42-1761, allows the Board to purchase, lease, accept as a gift, or otherwise obtain rights to natural flow or stored water, and credit them to the Water Supply Bank. These water rights may then be rented from the bank for other uses as long as there is no injury to other water rights, the use does not constitute an enlargement of the water right, and the use is in the public interest. The Board may appoint local committees, including water district advisory committees, to facilitate the rental of stored water. In the Payette River Basin the Board has appointed local committees in Water District 65 and 65K.

Table 54. Projects Funded by the Idaho Water Resource Board within the Payette River Basin.

Year	Project Sponsor	Project Description	Amount Funded
1982	City of Donnelly	Municipal water system expansion	\$50,000 loan
1985	City of Donnelly	Construct municipal well	\$3,000 grant
1987	City of Cascade	Municipal water supply alternatives study	\$9,000 grant
1988	City of Cascade	Construct municipal well and pipeline	\$90,377 loan
1988	Scenic Properties Water Assoc.	Replacement of water storage tank	\$15,000 loan
1990	Payette County	Groundwater study	\$5,000 grant
1991	City of Payette	Install city park water and sewer lines	\$5,000 grant
1991	City of Crouch	Wastewater system design study	\$4,414 grant
1991	City of Donnelly	Construct municipal well	\$93,508 loan
1992	City of Cascade	Municipal water system improvement study	\$5,000 grant / \$12,850 loan
1994	Lowman Development Assoc.	New water system feasibility study	\$5,000 grant
1995	Boise River 2000 Diversion Upgrade Committee	Diversion structure improvement study	\$5,000 grant
1995	City of New Plymouth	Construct dual water system	\$5,000 grant
1996	South Lake Water District	Cascade area drinking water study	\$3,750 grant
	City of Cascade	" "	\$3,750 grant
	Lake Cascade Homeowners Assoc.	" "	\$3,750 grant
	West Mountain Water Users Assoc."	" "	\$3,750 grant
1996	Washoe Irrigation Company	Headgate replacement plans and specifications	\$7,400 grant
1996	City of New Plymouth	Water system upgrade plans and specifications	\$7,500 grant
1998	Garden Valley Ranchettes Homeowners Assoc.	Construct community well	\$5,000 grant/ \$55,000 loan

IDAHO DEPARTMENT OF WATER RESOURCES

The Idaho Department of Water Resources oversees many programs to conserve, protect, develop, and use Idaho's water and energy resources. The Department is comprised of three divisions - Water Management, Planning and Policy, and Energy.

The Water Management Division is responsible for implementing programs designed to manage and protect the ground and surface water resources of Idaho. This responsibility entails water rights administration and distribution, including supervision of the state's watermasters. Ground water protection activities include the licensing of well drillers, regulation of well construction, and oversight of underground injection wells. The Division inspects dams on a regular basis to insure dam safety. Floodplain management activities include coordination of the National Flood Insurance Program and assistance in planning for floods. The Division reviews and permits stream channel alteration activities.

The Planning and Policy Division provides technical data and information in support of the Department's water administration, management, and regulation responsibilities. The extent, nature and location of the state's surface and ground water resources are tracked using a number of tools including gaging stations, geographic information systems, hydrologic studies, and ground water quality studies. Another Division function includes review and evaluation of water resource issues, concerns, and opportunities raised by federal, state and private entities. Technical assistance is also provided to the Idaho Water Resource Board, including preparing comprehensive state water plans.

The Energy Division is responsible for implementing energy conservation programs, and

providing technical assistance in high-efficiency technologies and renewable resource generation systems. The Division provides these services to energy consumers, producers, and policy makers.

OTHER PLANNING ACTIVITIES AND AUTHORITIES

Idaho Division of Environmental Quality and Water Quality Management Plans

The Idaho Division of Environmental Quality maintains and enforces water quality standards. The Division may provide funds to soil and water conservation districts to assist in water quality plans, and for cost-sharing with farmers who apply Best Management Practices (BMPs).

The Idaho Division of Environmental Quality has identified stream reaches in the Payette River Basin that are water quality limited (all beneficial uses are not being met) pursuant to Section 303(d) of the Clean Water Act (See Table 23, page 79). This designation requires development of Total Maximum Daily Load (TMDL) standards to control point and nonpoint pollution sources. Reaches are prioritized for development of Total Maximum Daily Loads based on risks. Most reaches in the Payette River Basin were assigned a low priority, meaning although designated uses are not fully supported, the risk to human health and aquatic life, or recreational, economic, and aesthetic values of the water body are minimal. Cascade Reservoir and the Payette River below Black Canyon Dam were assigned a high priority.

In 1995 the Idaho Legislature adopted water quality statutes to respond to 303(d) listings. The statutes implement a process to prioritize watersheds needing pollution management, and to develop water quality action plans through community-based advisory committees. The approach was two-tiered, with basin advisory groups (BAGs) developing recommendations to the Idaho Division of

Environmental Quality regarding water quality standards and monitoring, pollution budgets, and prioritization of impaired waters. Watershed advisory groups (WAGs) develop and implement watershed action plans to fulfill the Total Maximum Daily Load requirement. The Southwest Idaho Basin Advisory Group covers the Payette River Basin. Four watershed advisory groups operate in the basin. The activities of each are summarized below.

Big Payette Lake Water Quality Council

The Big Payette Lake Water Quality Council was authorized by the Legislature in 1993 to study the condition of Payette Lake and its watershed, and prepare a lake management plan. The Council developed the *Big Payette Lake Management Plan* that was adopted by the Legislature in 1998 (Big Payette Lake Water Quality Council, 1998). The Idaho Division of Environmental Quality coordinated studies and assembled the associated reports. The U.S. Geological Survey performed lake studies. A Technical Advisory Committee provided oversight of the studies.

The plan establishes water quality objectives for dissolved oxygen, total phosphorus, and chlorophyll-A based upon findings in the *Technical Report on the Water Quality of Big Payette Lake* (Big Payette Lake Technical Advisory Committee, 1997). The lake management plan also recommends voluntary actions to protect the lake and its watershed. The plan directs that rules and regulations may be required if monitoring indicates water quality objectives are not met through voluntary action. Recommendations address the following activities: timber harvest, mining, grazing, recreation, road construction and maintenance, stormwater management, commercial and residential development, utility installation, swimming pools, boat and dock use, and lawn and garden development.

The plan identifies the area encompassing the northern shore of Payette Lake and the North Fork Payette River corridor almost to its headwaters as the North Fork Payette Water Quality Corridor. This area is accorded special protection, because corridor activities adversely impact water quality in Payette Lake. The Board is requested to designate the North Fork Payette River from headwaters to Payette Lake inlet as a recreational river, and to obtain an instream flow water right for the North Fork Payette below Upper Payette Lake.

Cascade Reservoir Watershed Advisory Group

The Cascade Reservoir Coordinating Council functions as a watershed advisory group in the development and implementation of a Cascade Reservoir watershed management plan. A technical advisory committee and various work groups provide assistance to the watershed advisory group. The technical advisory committee reviews proposed projects to ensure they are consistent with phosphorus reduction goals, and follow scientifically acceptable procedures. Work groups were formed to prepare source plans for each designated nonpoint source category - forestry, agriculture, and urban/suburban.

The overall goal of the watershed management plan is to restore and maintain water quality in Cascade Reservoir and its tributaries so that designated beneficial uses are protected. A major focus and primary goal is to reduce total phosphorus loads into the reservoir by 37 percent (Idaho Division of Environmental Quality, 1998). To achieve the goals and objectives of the watershed management plan, the Idaho Division of Environmental Quality will rely on existing authorities and voluntary implementation of phosphorus reduction measures.

The watershed management plan for the Cascade Reservoir consists of three phases. Phase I established initial nutrient reduction goals and implementation strategies, and was approved in May 1996. Phase II contains further evaluation of phosphorus reduction goals and alternatives, and was submitted to the Environmental Protection Agency in December 1998. Phase III will consist of a plan evaluation and monitoring summary to determine if modification to management practices is necessary to attain water quality goals within the reservoir. An implementation plan, outlining projects that have been and will be initiated to effect required water-quality improvements within the reservoir, will be completed within eighteen months of the submission of the Phase II document (~ June 2000). Phase III is planned for completion by the year 2003.

Lower Payette Watershed Advisory Group

A total maximum daily load plan for the lower Payette River encompasses the reach below Black Canyon Dam to its mouth. A draft subbasin assessment identifying problem areas was undergoing public review in February 1999. A final total maximum daily load plan must be submitted to the Environmental Protection Agency by the end of December 1999. An implementation plan will be prepared eighteen months after the total maximum daily load plan is adopted.

Southwest Basin Native Fish Watershed Advisory Group

In mid-1996 Governor Batt and the state of Idaho issued an official conservation plan for bull trout recovery, hoping to prevent federal listing of the species under the Endangered Species Act (Batt, 1996). The bull trout was listed as threatened by the U.S. Fish and Wildlife Service in 1998. Despite the listing, the state is committed to continuing implementation of the *State of Idaho Bull Trout Conservation Plan* (Batt, 1996).

The mission of this plan is to maintain and/or restore complex interacting groups of bull trout populations throughout their native range in Idaho through the following goals: maintain the condition of areas that currently support bull trout; institute recovery strategies that produce measurable improvement in status, abundance, and habitats of bull trout; establish a secure, well-distributed set of sub-watersheds within key watersheds to achieve stable or increasing populations and to maintain options for future recovery; and achieve these goals while maintaining the economic viability of Idaho's industries.

The bull trout conservation plan identified five key watersheds in the Payette River Basin depicted on Map 20 (page 109). Key watersheds are those areas designated as critical to the long-term persistence of regionally important bull trout populations. Watershed specific plans for each key watershed are developed using the basin advisory group and watershed advisory group framework. Technical advisory teams assist the watershed advisory groups, providing the scientific framework for the plans.

The Southwest Basin Native Fish Watershed Advisory Group is currently preparing a problem assessment for key watersheds in the Payette River Basin. This Phase I document consists of a problem assessment and protection measures implementation, and is expected to be completed in 1999. Phase II will consist of development and implementation of a conservation and monitoring plan.

Idaho Department of Fish and Game Fisheries Management Plan

The Idaho Department of Fish and Game is mandated to preserve, protect, perpetuate, and manage the fish and wildlife resources of Idaho. The

Department's Fisheries Management Plan (1996-2000) describes the Department's direction in pursuing improvement of fish populations and angling opportunities in the basin. These include providing a diversity of angling opportunities; maintaining riparian and floodplain values; and maintaining the lake trout fishery in Payette Lake. Another plan objective is to secure fish and wildlife maintenance flows on the North Fork Payette above and below Payette Lake and Lake Fork below Little Payette Lake. The Idaho Department of Fish and Game has the capability to conduct technical studies to provide the Board information in applying for minimum stream flows.

Soil and Water Conservation Districts

Soil and water conservation districts are a subunit of state government managed by a local board of supervisors elected by local voters. The districts work with landowners on a voluntary basis addressing natural resource management in a site-specific manner. Their activities help landowners and operators control soil erosion, and improve water quality and wildlife habitat. These objectives are accomplished with the aid of several partners including the U.S. Natural Resources Conservation Service, Idaho Soil Conservation Commission, Idaho Association of Conservation Districts, and the Idaho Division of Environmental Quality. The Natural Resources Conservation Service, an agency of the U.S. Department of Agriculture, provides on-site technical assistance to private landowners. Range and riparian improvements may be implemented through loans and grants available through the Idaho Soil Conservation Commission.

Irrigation Diversion Studies and Improvements

Two studies have examined the potential to improve irrigation diversions and water management in the basin. One study examined diversions in the

Cascade Reservoir watershed, with the purpose of preparing an irrigation management plan (Natural Resources Consulting Engineers, Inc., 1996). The study evaluated life expectancy, current condition, and performance of diversion structures and conveyance systems. Engineering improvements and modifications were recommended.

The study concluded that the majority of sites performed adequately, but lack of water control and flow measurement on some delivery systems made development of an irrigation management plan difficult. Recommendations for improvement in these areas included installation of calibrated gates and checks, and placement or construction of measurement devices to improve water quality and instream flow. Some of these recommendations have already been implemented. Remaining recommendations for specific diversions are listed in Table 55.

An inventory of irrigation diversion structures in the Boise and lower Payette was conducted in 1996 (Quadrant Consulting, Inc., et al., 1997). The study included thirteen diversions on the Payette River below Black Canyon Dam. The inventory included interviews with operators to determine if consolidation was possible, and a visual assessment of safety for river recreationists. Recommendations for some diversions were made and are contained in Table 56. Task 2 of the study collected additional information for three Payette River diversions. This inventory looked at river health, safety, and floodway impacts.

Water District 65 has made a substantial investment in funding and providing technical support and training to improve water measurement, water right accounting, and water management. Table 57 summarizes these actions. The Water District plans to continue automating and installing

Table 55. Recommendations for Cascade Reservoir Watershed Diversions.

Diversion	Study Recommendations
<u>Lake Fork Watershed</u>	
Westside Lake Fork Ditch	Catch point: Install weir flow measurement device, inlet box should be raised to mitigate backwater problems Replace corroding 24" steel outlet pipes with PVC; Cipolletti weir blade needs sharpened or replaced; scheduled maintenance and program to clear vegetation and other obstructions
Lake Irrigation District Canal	Install a measuring device - a ramp flume structure suggested
Spink-Barker Ditch	Replace diversion with more permanent structure; requires headwall and attachment to corrugated metal pipe; install stage recorder and stilling well with stage recording equipment at weir
Ditch F	Install 24" slide gate on ditch with a check structure; install small ramp flume structure; invert at head should be lowered slightly
Pump F	Install flow meter
<u>Mud Creek Watershed</u>	
Ditch B	Install 36" headgate structure at diversion and replace existing culvert; install 36" headgate at wasteway with turnout to farm ditch; install ramp flume structure with staff gage at both; replace check structure in creek
Ditch C	Install 36" headgate structure at the diversion point and replace existing culvert; install 36" headgate structure at wasteway with turnout to farm ditch; install ramp flume structure and staff gage at both; replace check structure serving farm ditch
Ditch D	Install 12" headgate structure; install weir flow measurement device on headgate; can remove check/waste box; install fencing to keep livestock out
Ditch L	Replace 60" corrugated metal pipe with 2 -36" gated culverts and bulkheads; install ramp flume structure and staff gage
Stock Pond B	Remove structure as it has been abandoned
<u>Boulder Creek</u>	
Pump B	Clean or replace trash rack; install flow meter for each pipe
Stock Pond D/ Ditch A	Install staff gage and 3' Cipolletti weir structure; rehabilitate eroded rock chute spillway with concrete design; clear head of spillway
Upper Jug Reservoir	Clear dead timber from reservoir
Ditch K	Install riprap bank protection, sharpen or replace weir blade
<u>Gold Fork</u>	
Pump C	Replace sediment diversion dam with more permanent structure; install flow meter; clean oil and diesel fuel contaminated area
Pump D	Replace sediment diversion dam with more permanent structure; install flow meter on pump
Center/Gold Fork Canal	Install Cipolletti weir in canal above Gold Fork flume crossing; reconstruct north wingwall at diversion; repair several canal sections
Ditch E	Install 12" gated turnout; install staff gage and 2.5' Cipolletti weir or flume structure; require new outlet facility
Ditch G	Install 36" gate and headwall structure; install 6' Cipolletti weir structure; extend ditch to river; install wasteway structure at confluence with side channel
Ditch H	Install 15" gate and headwall structure; install 2.5' Cipolletti weir or flume and staff gage
Ditch I	Install Cipolletti weir and gage staff; install headwall; install 4" Cipolletti weir or flume structure and staff gage; recommend regular clearing
Stock Pond C	Install flume structure in farm ditch and staff gage; raise contour ditch around meadow; install drop structure in wasteway
<u>Willow Creek</u>	
Diversion 701	Install flow meter
Diversion 702	Install 15" gate and headworks structure; install 1" Cipolletti weir

Sources: Natural Resources Consulting Engineers, Inc., 1996

Table 56. Lower Payette Diversion Recommendations.

Diversion	Recommendations
Bilbrey Enterprise Diversion	Signage to inform recreationists about diversion
Boise Cascade- Emmett	Construction of a permanent structure proposed
Eagle Island Diversion	Signage to inform recreationists about diversion
Farmers Cooperative Diversion	Possibility of additional signage upstream to inform recreationists
Last Chance Diversion	Culverts installed for Plaza Road are undersized, eventually county will replace with clear span structure, might want to consider Parshnall measuring flume; signage to inform recreationists of diversion dam and portage route
Lower Payette Diversion	Possible consolidation with Simplot pumps; signage to inform recreationists of diversion and possible portage
Seven Mile Slough Diversion	Possibility of improving diversion to make the structure more permanent; install trash rack in front of headworks for safety; signage to inform recreationists about diversion and possible portage
Washoe Diversion	Headgate may need rebuilt; repair needed to check structure; signage to inform recreationists about diversion and recommending portage route
Acord Diversion	Possible permanent structure

Source: Quadrant Consulting, Inc., et al., 1997.

Table 57. Water District 65 Water Delivery System Improvements.

Year	Participant	Improvement
1995	Lower Payette Ditch Company	Installed broad-crested weir measuring device
1996	Water District 65	Funding partner in the Boise-Payette Rivers Diversion Upgrade Project
1996	Boise Cascade Corp./Smith Ditch	Installed measuring device
1997	Last Chance Ditch Company	Irrigation return flow reuse flume
1997	Farmers Co-op Irrigation Company	Automated headgates at river
1997	Farmers Co-op Irrigation Company	Automated spillway at Patton Point
1997	Lower Payette Ditch Company	Remote telemetry at measuring device
1997	Lake Reservoir Company	Automated radial gates at Lardo Dam
1997	Noble Ditch Company	Automated ramp flume at diversion
1997	Reed Ditch Company	Automated ramp flume at diversion
1997	Emmett Irrigation District	Headgate improvements
1998	Water District 65	Funding partner with U.S. Bureau of Reclamation to raise Black Canyon Reservoir 6 inches to improve irrigation delivery
1998	Farmers Co-op Irrigation Company	Two spillways automated, automated delivery of one lateral, telemetered reading from a lateral delivery.
1998	Enterprise Ditch Company	Automated ramp flume at diversion
1998	Black Canyon Irrigation District	Automate headgate at Black Canyon Dam diversion, automated a lateral delivery
1998	Emmett Irrigation District	Automate hydro pumps at Black Canyon Dam and telemetry
1999	Seven Mile Slough	A number of projects to automate deliveries and improve return flow reuse and storage delivery efficiencies

Source: Limbaugh, 1998

telemetry metering on its diversions (Limbaugh, 1998). In 1999 the Water District will take a number of actions to automate the Seven Mile Slough to more efficiently manage water storage and natural flow deliveries, irrigation return flows, and improve water measurement.

Idaho Department of Parks and Recreation

The Idaho Department of Parks and Recreation was established by the Idaho Legislature in 1965. The Department was directed to prepare and implement long-range comprehensive plans and programs for acquisition, planning, protection, operation, maintenance, development and wise use of areas of scenic beauty, recreational utility, historic, archaeological, or scientific interest, and acquire lands and water for these purposes. The Department provides and enhances recreation opportunities in the basin through its planning and administration activities.

The Department of Parks and Recreation guides the development and implementation of the Statewide Comprehensive Outdoor Recreation Plan. The current plan, *1996 Idaho Statewide Comprehensive Outdoor Recreation and Tourism Planning: Assessment and Policy Plan*, was updated in 1998 (Idaho Department of Parks and Recreation, 1998). This plan was developed under the direction of a task force comprised of government, non-government, organizations, and private sector businesses. The plan provides an assessment of outdoor recreation and tourism in the state, and a policy plan that outlines goals and strategies to guide coordinated efforts for high quality recreation and tourism opportunities. Goals contained in this plan most relevant to the comprehensive state water plan include: promoting and maintaining high quality fish and wildlife recreation opportunities; maintaining a diversity of water-based recreation opportunities; and protecting and enhancing landscapes, scenery, and visual resources.

The State Boating Program was established to improve boating safety, adopt boating safety standards, and promote development and recreational use of the waterways for watercraft. Activities engaged in include statewide boater education and information, marine law enforcement training, public access facility funding, and licensing of motorboats and sailboats. The program administers three accounts funded by boating registration fees or surcharges on state gasoline taxes. The majority of monies are transferred to the counties and used to fund recreational boating facilities and services.

The Department manages two state parks in the basin - Ponderosa State Park on Payette Lake and Lake Cascade State Park located on Cascade Reservoir. Additionally, through funding programs mentioned above and data collection and database management activities, the Department has been instrumental in helping recreation managers provide facilities and obtain information to aid resource management.

County Comprehensive Land Use Plans

Maintaining the social and resource components that comprise the quality of life is largely dependent on the direction and character of future development. Counties and communities have a major influence through their planning and zoning decisions. Portions of four counties are located in the basin -- Boise, Gem, Payette and Valley counties. Each county has adopted, or is in the process of adopting, comprehensive land use plans and zoning ordinances. The comprehensive plans contain goals and policies directing the desired land uses and activities in the county, which are then implemented through the ordinances.

Valley County

Valley County is currently updating its comprehensive plan, originally adopted in 1978. It is hoped that the plan will be adopted by the end of

1998. Goals and policies contained in the draft plan include accommodating population growth while maintaining the rural character; monitoring water supplies to ensure water carrying capacity is not exceeded; maintaining surface and ground water quality; preserving open space and critically important riparian areas adjacent to waterways; maintaining the recreational value of waterways; encouraging improved irrigation water management practices to protect water quality; preserving and protecting fish and wildlife resources; prohibiting or controlling construction in the floodplains; recognizing waterways as special areas; preparing an area plan for the North Fork Payette River corridor; protecting greenways along watercourses; maintaining the role of agriculture; developing a county-wide recreation master plan; protecting the continued function of irrigation systems through new developed areas; and facilitating conversion from septic systems to sewers (Valley County Commissioners, 1998).

Boise County

The current Boise County comprehensive plan was adopted in 1994. The plan contains goals and policy statements covering thirteen elements, including economic development, land use, natural resources and hazardous areas, recreation, and community design. Goals most relevant to the comprehensive state water plan include maintaining the "livability" of the rural lifestyle; encouraging guidelines and design techniques for development in proximity to water resources; supporting coordination and cooperation between federal, state and county agencies for multiple use of open and natural spaces on publicly managed land; encouraging a high quality environment; preventing loss of agricultural, timber and range lands; encouraging high quality standards to protect ground and surface water; providing review of proposed subdivisions to ensure adequate water

availability; promoting multiple use of streams and rivers; protecting floodplains; promoting the economic potential of rivers; and encouraging a variety of recreation activities for all segments of the public (Board of Boise County Commissioners, 1994). The Boise County comprehensive plan is currently being revised and updated.

Gem County

Gem County and Emmett completed a joint comprehensive plan in 1995. Goals and policies relevant to the Payette River Basin Plan include identification of the Payette River as a critical concern; protection of agricultural lands; protection of ground and surface water quality by reviewing development in these areas; encourage the "working river" status of the Payette River; discourage development that impacts agricultural or natural resource operations; encourage and support expansion of recreation programs at Black Canyon Dam and in the Payette River corridor; establish or maintain greenbelt and access to the Payette River and other waterways; acquire islands in the Payette River for public recreation use; preserve scenic values of the Payette River corridor, Squaw Creek and other watercourse corridors; identify areas with physical development constraints such as floodplains; utilize the Division of Environmental Quality's Idaho Wellhead Protection Plan; manage and prevent unsuitable uses along waterways for water quality protection; promote expanding Black Canyon power generation capabilities; and promote energy efficient building construction (Emmett City Council and Gem County Commissioners, 1995).

Payette County

Payette County originally adopted a comprehensive plan in 1979, most recently updating it in 1997. The plan contains goals and objectives for agriculture, residential, recreation, commercial, industrial, floodplains and hazardous areas,

community facilities, special areas, and transportation. Goals and objectives most relevant to issues identified during the Board's comprehensive state water planning process include: protect and promote agricultural assets and economy; encourage adequate drinking water and waste disposal facilities for residential development; encourage river bank greenbelts along the Payette River; and limit development in areas susceptible to flooding (Payette County Planning and Zoning Commission, 1997).

Interpretation and implementation of these goals and objectives will determine how land use will impact the future character and resource values in the basin. Local citizens must continue to actively participate in hearings and make known their desires to county commissioners just as they have in helping the Idaho Water Resource Board develop this plan.

U.S. Bureau of Reclamation

The Payette River Basin is within the Pacific Northwest Regional boundaries of the U.S. Bureau of Reclamation which is charged with managing, developing, and protecting water and related resources. The U.S. Bureau of Reclamation's main activity in the basin has encompassed the development and management of storage to provide supplemental water supplies. Several storage reservoirs and projects in the basin were developed for this purpose, including Cascade Reservoir, Deadwood Reservoir and the Black Canyon project. Operation of these projects was described earlier in this chapter. Project development occurred when the Bureau's main mission was water development. This mission has expanded to include a focus on water and related resources management.

Resource Management Plans

Resource management plans address the management of water and land surfaces, including protection of natural, recreational, archaeological,

historical, and other resources. The 1991 Resource Management Plan for Cascade Reservoir is currently being updated and is scheduled for completion in 2001. Preparation of the first Resource Management Plan for the Black Canyon / Montour project will begin in the year 2001 and be completed in 2003. Both processes are under the direction of the U.S. Bureau of Reclamation's Snake River Area office in Boise, and will involve numerous opportunities for people to participate in the development of the plans.

Snake River Resource Review

The U.S. Bureau of Reclamation is currently conducting a comprehensive review of its operations and the resources in the Snake River Basin above Brownlee Dam, known as the Snake River Resources Review. The main objective is to develop a decision support system to analyze operation of the system. The decision support system can help to explore how the system might respond to different management scenarios to meet traditional uses while responding to additional demands for water. The review is scheduled for completion in the year 2000. The resource review provides an opportunity to coordinate the information and recommendations developed during the Board's state water planning activities in the Payette River Basin with other agencies.

The National Marine Fisheries Service has established a Process for Analyzing and Testing Hypotheses (PATH) for salmon recovery efforts. This group has requested that flow augmentation for an additional one million acre-feet of Idaho water be considered as one of the long-term alternatives for salmon protection in the U.S. Army Corps of Engineers' Juvenile Fish Migration Study. The Army Corps of Engineers asked the U.S. Bureau of Reclamation to evaluate this alternative. The Bureau is utilizing the resources and data developed during the Snake River Resources Review process to assist

in the one million acre-feet analysis. The analysis assesses the impacts of using additional water from Idaho, including Payette River Basin water, for flow augmentation and will serve as a pilot for the decision support system.

U.S. Forest Service

The Boise, Payette and Sawtooth national forests manage almost 50 percent of the lands in the Payette River Basin. The most recent forest plans for the Boise and Payette national forest were completed in 1990 and 1988, respectively. The Sawtooth National Forest completed its last plan in 1987. These forests are in the process of revising forest plans. The forest plan revision will guide all natural resource management activities, and establish management standards, guidelines and prescriptions over the next ten to fifteen years.

U.S. Bureau of Land Management

Resource Management Plan

The Cascade Resource Management Plan guides the management of public lands in the Payette River Basin (U.S. Bureau of Land Management, 1987). The Plan's goal is to provide an optimum mix of protection and enhancement of the natural environment, and commodity resource use. Resource management guidelines relevant to the Board's plan include maintaining, improving, protecting and restoring watershed conditions and water quality; constructing facilities and structures for water sources; and managing activities in the floodplains to restore or maintain their natural functions. A 100-foot riparian buffer zone was established along river corridors that prohibits road construction, timber harvest, gravel extraction, and application of pesticides and herbicides. A 500-foot riparian buffer was established that prohibits oil and gas exploration, and agriculture and mining activities that would contribute sediment or chemicals. The plan supports maintaining state recommended instream flows.

Nineteen thousand acres along the Payette River Corridor are designated as a Special Recreation Management Area. Eight miles of the South Fork Payette River are found eligible for further study as a wild and scenic river (See Table 58).

Payette River Recreation Area Management Plan

A recreation management plan for 19,000 acres of public land along the North Fork, South Fork, Middle Fork, and main Payette rivers was completed in 1994 (U.S. Bureau of Land Management, 1994). The plan developed a management strategy to address recreation demand, user safety, and protection of natural resources. The plan makes recommendations for facility development and protection of natural resources.

Federal Wild and Scenic River Studies

The federal wild and scenic river study process involves two steps: 1) an eligibility analysis to determine if a river reach possesses the minimum criteria for further study as a potential wild and scenic river; and 2) a suitability study to evaluate if a river should be recommended for inclusion into the National Wild and Scenic River System. Three designations are possible, indicating the degree of development along the reach -- wild, scenic or recreational.

The Boise National Forest and Lower Snake District Bureau of Land Management have conducted wild and scenic river eligibility studies for reaches in the Payette River Basin. This analysis identified free-flowing river or stream reaches with "outstandingly remarkable" geologic, scenic, recreational, fish, wildlife, historic, and/or cultural values. The results of the eligibility findings are summarized in Table 58.

Three national forests occur within the Payette River Basin - Boise, Payette and Sawtooth. As part of the forest plan revision, the national forests will be reviewing the eligibility analysis

Table 58. Eligible Wild and Scenic Reaches in the Payette River Basin.

Reach	Location	Potential Classification
<u>Boise National Forest</u>		
North Fork Payette River	Forest boundary to forest boundary	recreational
South Fork Payette River	Forest boundary to Long Gulch	recreational
	Long Gulch to Pine Flat Creek	scenic
	Pine Flat Creek to Wolf Creek	recreational
	Wolf Creek to Forest boundary	scenic
Deadwood River	Headwaters to Deadwood Reservoir	recreational
	Deadwood Reservoir to Warm Springs Creek	scenic
	Warm Springs Creek to Pine Creek	wild
	Pine Creek to South Fork Payette confluence	scenic
Middle Fork Payette River	Railroad Bridge Pass to Middle Fork Bridge	recreational
	Middle Fork Bridge to Boiling Springs	wild
	Boiling Springs to Forest boundary	recreational
<u>Lower Snake River District Bureau of Land Management</u>		
South Fork Payette	Alder Creek to Banks	recreational

Sources: U.S. Forest Service, Boise National Forest, 1990; U.S. Bureau of Land Management, 1987.

conducted for previous plans. This may result in additions or removal of eligible reaches listed in Table 58. The Lower Snake District Bureau of Land Management needs to complete eligibility for tributaries to the Payette River system (Hagdorn, 1998).

Reaches found eligible are managed to preserve those values contributing to eligibility. The agencies need to complete a suitability study prior to recommending designation of eligible reaches as wild and scenic. Congressional approval is also needed for a river to become part of the National Wild and Scenic River System. The national forests do not intend to complete suitability studies until after forest plan revisions are completed. The Lower Snake District Bureau of Land Management will conduct suitability studies cooperatively with the Forest Service, pending future funding from Congress (Hagdorn, 1998). The Board supports the Forest Service and Bureau of Land Management working

within the state planning process rather than pursuing federal protection of waters within the Payette River Basin.

Federal Emergency Management Agency

The Federal Emergency Management Agency administers the National Flood Insurance Program, established in 1968. The program provides flood insurance to property owners residing in communities and counties that participate in the program. Participation requires adoption of floodplain ordinances that contain minimum standards identified by the Federal Emergency Management Agency. All basin communities and counties, with the exception of Crouch, participate in this program.

Additional flood management opportunities are available through this agency. The Community Rating System program recognizes community efforts that go beyond the minimum floodplain

ordinance standards. Credit points are assigned for each additional activity. Based on the total number of points earned, a community is assigned to one of ten classes. Flood insurance premium discounts, ranging from 5 to 45 percent, are based on the rate class the community achieves.

Goals and Objectives

The statute provides some guiding criteria for the Board in developing a comprehensive state water plan. These are found at Idaho Code 42-1734A and include:

1. Existing rights, established duties, and the relative priorities of water established in the Idaho Constitution will be protected and preserved.
2. Optimum economic development in the interest of and for the benefit of the state as a whole will be achieved by integration and coordination of the use of water, the augmentation of existing supplies, and the protection of designated waterways for all beneficial purposes.
3. Adequate and safe water supplies for human consumption and maximum supplies for other beneficial uses will be preserved and protected.
4. Minimum stream flows for aquatic life, recreation, aesthetics, water quality, and the protection and preservation of waterways will be fostered and encouraged. Consideration will be given to the development and protection of water recreation facilities.
5. Watershed conservation practices consistent with sound engineering and economic principles will be encouraged.

Additional goals and objectives contained in the Payette River Basin Comprehensive State Water Plan reflect local concerns, current and future uses of water, and the resource values of the basin.

Discussions about priority issues by the Payette River Citizens Group identified some general wants and needs, or desired outcomes, falling into ten categories. Goals were developed to address these desires. Goals are general statements about citizens' desired future for the basin. The Payette River Citizens Group developed, discussed, and reviewed goals at workshops conducted in May and June 1998. The following lists the goals developed and supported by the Citizens Group for each issue category.

State Protected Rivers Designations

1. Recognize and maintain the outstanding fish and wildlife, aesthetic, recreation, and geologic values of waterways in the Payette River Basin.

Water Allocation

2. Work toward cooperation among all water users for optimum use of the Payette River Basin's water resources.
3. Maintain flexibility when providing water for different uses to address changing demands, while recognizing existing water rights and contracts in accordance with state law.
4. Support the management of the water delivery system to meet irrigation water rights and contracts, and other objectives such as water quality, flood management, private property, fisheries, wildlife, energy, and recreation needs.

Water Storage and Delivery

5. Improve the efficiency of surface water delivery systems where cost effective and beneficial.
6. Identify and protect potential water storage opportunities in the basin for the purposes of municipal water supply, irrigation, and flood management.

Municipal Water Supply

7. Maintain or develop an adequate supply of good quality water to meet present and future municipal needs.

Water Quality

8. Maintain, improve, and protect water quality of all surface and ground water within the Payette River Basin.
9. Improve coordination between the Idaho Division of Environmental Quality, Idaho Department of Water Resources, Health Districts, and local governments to manage, maintain, or enhance basin water quality.

Flood Management

10. Minimize potential flood damage by managing riparian zones and open space along streams and rivers.
11. Repair damage from the 1997 flood.
12. Improve maintenance and management of the levee system along the Payette River from Horseshoe Bend to its mouth.
13. Update floodplain mapping in the Payette River Basin.

Resource Development

14. Recognize and consider the importance of industrial resources in the basin, such as timber, minerals and agriculture, in maintaining a viable economy.
15. Consider the economic feasibility of hydropower projects that maintain or enhance environmental quality, and provide economic benefits to the basin.
16. Encourage energy conservation and development of hydropower at existing structures where feasible.

Fisheries

17. Improve the quality of fisheries in the basin.

Agency Planning and Coordination

18. Improve the efficiency of the permitting process for stream channel alterations, particularly during emergencies.
19. Encourage or improve coordination among the agencies, private landowners and public in managing the resources in the Payette River Basin.

Recreation

20. Recognize and consider the positive economic and social values of recreation and tourism in the basin.
21. Maintain the diversity and quality of recreation opportunities on the Payette River system.
22. Minimize water-related recreation user impacts in the basin, such as environmental damage, adverse social impacts, and the cost of public services, while maintaining aesthetic, recreational and environmental qualities.

Strategies

The Payette River Citizens Group prioritized and defined specific problems, issues, and concerns, resulting in thirty-five problem statements. The Citizens Group and other members of the public suggested strategies to respond to the issues and concerns identified, and achieve the goals. Strategies are proposed actions, recommendations, or policies that would accomplish the desired goals. More than 350 were identified during this process. These represent the alternatives considered for the Payette River Basin Comprehensive State Water Plan and are contained in Appendix B.

The Citizens Group reviewed the alternative strategies, identifying those they could not support. Strategies acceptable to everyone became recommendations to be submitted to the Board. Strategies lacking group agreement were discussed further, in an attempt to achieve consent by proposing word changes or modified strategies. If all participants could live with these proposals, they were also submitted to the Board as Citizens Group recommendations. The recommendations supported by the Board are contained in the *Actions and Recommendations* section that follows.